

LXII.—A Revision of the Jurassic Bryozoa.—Part II. The Genus *Proboscina*. By J. W. GREGORY, D.Sc., F.G.S.

[Continued from vol. xv. p. 228.]

Family Tubuliporidæ (continued).

Genus *PROBOSCINA*, Audouin, 1826.

*Diagnosis*.—Tubuliporidæ in which the zoœcia form flat adnate multiserial zoaria. The zoaria are mainly in linear bands, which may or may not branch. The zoœcia are tubular. The peristome is either flush with the surface of the zoarium or somewhat raised.

Type species: *P. Boryi*, Audouin.

The retention of this genus is somewhat reactionary, for most authors now place it as a synonym of *Stomatopora*, *Berenicea*, *Diastopora*, or even *Entalophora*. It is certainly nearest to *Stomatopora* and *Berenicea*, between which it is intermediate. Pergens\* has described a specimen which begins as a *Diastopora*, then gives rise to branches of *Proboscina*, and these end as *Stomatopora*; and upon the evidence of this specimen he merges the two latter. This specimen, however, proves either too much or too little. If its evidence is to be accepted, then the three genera ought to be united. But Pergens retains *Stomatopora* as distinct from *Diastopora* in spite of it. To do otherwise would be practically to abandon the use of genera in the Cyclostomata. I frankly admit that there are specimens intermediate between *Proboscina* and *Diastopora* on the one hand, and between the former and *Stomatopora* on the other: nevertheless, there is a large group of species which exhibit the characters of the above diagnosis, and the genus is therefore a convenient one; and to expect genera of Cyclostomata to be more than convenient groups of species, seems hopeless at present. *Proboscina* is therefore accepted as a genus which differs from *Stomatopora* by having a multiserial zoarium, and from *Berenicea* by having its zoœcia arranged in bands instead of in broad sheets.

1. *Proboscina Eudesi*, Haime, 1854.

*Proboscina Eudesi*, J. Haime, 1854, Jur. Bry., Mém. Soc. géol. France, sér. 2, t. v. p. 167, pl. vi. figs. 9 a, b.

\* E. Pergens, "Revision des Bryozoaires du Crétacé figurés par d'Orbigny, Part I. Cyclostomata," Bull. Soc. belge Géol. t. iii. 1890, Mém. p. 327.

*Proboscina Davidsoni*, Haime, 1854, *op. cit.* p. 167, pl. vi. fig. 11.

*Proboscina Buchi*, Haime, 1854, *op. cit.* p. 168, pl. vii. fig. 10.

*Stomatopora (P.) Davidsoni*, Vine, 1884, 4th Rep. Foss. Polyz., Rep. Brit. Assoc. 1883, p. 186.

*Diagnosis.*—*Zoarium* formed of fairly regular, anastomosing bands, composed usually of from four to six zoecia. Each branch in section appears as a rounded ridge.

*Zoecia* regularly cylindrical.

*Peristomes* usually in regular transverse lines, slightly raised. *Zoecia* of medium length.

*Formula*\*.— $p s l r = 1 0 2 \frac{4}{7}$ .

*Distribution.*—Great Oolite and Inferior Oolite: England. Bathonian of France and Germany; Bajocian, France.

### 2. *Proboscina Jacquoti*, Haime, 1854.

*Proboscina Jacquoti*, Haime, 1854, Bry. Jur., Mém. Soc. géol. France, sér. 2, t. v. p. 169, pl. vii. figs. 5 a, b.

*Reptotubigera Jacquoti*, Terquem, 1855, Pal. dép. Moselle (sep. copy), p. 28.

*Proboscina Jacquoti*, Brauns, 1879, Bry. mitt. Jura, Metz, Zeit. deut. geol. Ges. Bd. xxxi. p. 324.

*Stomatopora (P.) Jacquoti*, Vine, 1884, 4th Rep. Foss. Polyz., Rep. Brit. Assoc. 1883, p. 186.

*Proboscina thrapstonensis*, Vine, 1893, Polyz. Thrapston, Proc. Yorksh. Geol. Soc. vol. xii. p. 257, pl. xii. fig. 6.

*Proboscina ornata*, id. *ibid.* p. 257, pl. xiii. fig. 10.

*Diagnosis.*—*Zoarium* consisting of two or more flabellate expansions arising from a narrow stolon-like band of zoecia.

*Zoecia* long, cylindrical, irregularly placed. In the typical form from one to five zoecia in each branch. In some forms (var. *expansa*) spreading out into multiserial *Berenicea*-like sheets, which are fenestrate.

*Formula.*— $2 0 3 \frac{1}{12}$ .

*Distribution.*—England: Cornbrash. Foreign: Bajocian, France, Germany.

### 3. *Proboscina Desoudini* (Haime), 1854.

*Stomatopora Desoudini*, Haime, 1854, Jur. Bry., Mém. Soc. géol. France, sér. 2, t. v. p. 165, pl. vi. figs. 5 a, b.

*Diagnosis.*—*Zoarium* very irregular; composed of narrow bands anastomosing to an irregular network, each band from one to three zoecia in width.

*Zoecia* narrow, of medium length, often slightly sinuous;

\* The formulæ are the same as those used for *Stomatopora* (Ann. vol. xv. p. 227), except that the last term indicates the number of zoecia in a branch.

in crowded areas the zoëcia are pyriform\*. Transverse ribbing well marked.

*Peristomes* slightly raised.

*Formula*.—1' 2 2 1-2.

*Distribution*.—England: Cornbrash. Foreign: Bajocian, France; Bathonian, France and Germany.

#### 4. *Proboscina Cunningtoni*, sp. n.

*Diagnosis*.—*Zoarium* formed of loose flabelliform *Stomatopora*-like tufts; these may radiate from a centre, to form a circular zoarium. The branches begin uniserially, and may end in sheets containing twelve zoëcia in width.

*Zoëcia* regularly cylindrical, front wall ornamented by a transverse wrinkling; of medium length, broad.

*Peristomes* with somewhat thickened rims slightly raised.

*Formula*.—1 0 1 1-3.

*Distribution*.—Fuller's Earth, Bruton (B. M. Cunnington Coll. no. 88742): Cornbrash, Corsham.

*Affinities*.—This species is well characterized by its loose *Stomatopora*-like zoarium. Some branches end in sheets, and these ally it to *P. Rigauxi* (Sauv.). From this, however, it may be distinguished by the looseness of the zoarium. Its nearest ally is the recent *P. major* (Johnst.). (See Hincks, Brit. Mar. Polyz. p. 427, pl. lviii.) This, however, has a formula 2 0 2 1/4, and may be distinguished by the greater elevation of the peristomes and length of the zoëcia.

I have much pleasure in naming this species after William Cunnington, Esq., from whom the British Museum received the specimen taken as the type, and whose careful collecting has added so greatly to the knowledge of Jurassic palæontology.

#### 5. *Proboscina Rigauxi* (Sauvage), 1889.

*Stomatopora Rigauxi*, Sauvage, 1889, Bry. Jur. Boul., Bull. Soc. géol. France, sér. 3, t. xvii. p. 42, pl. iii. figs. 6-8.

*Stomatopora*, sp., G. R. Vine, 1887, Jur. Poly. North., Journ. Northamp. Nat. Hist. Soc. vol. iv. p. 204, pl. i. fig. 2.

*Proboscina clementina*, var. *minuta*, Vine, 1893, Polyz. Thrapston, Proc. Yorksh. Geol. Soc. vol. xii. p. 256, pl. xiii. fig. 9.

*Proboscina clementina*, var. *depressa*, id. *ibid.* p. 256.

*Diagnosis*.—*Zoarium* forming dense circular tufts. The branches end in crowded tufts, which almost form *Berenicea*-like sheets.

*Zoëcia* cylindrical, short, thick; front wall with a well-marked transverse ribbing. Surface punctulate.

*Peristomes* raised into a thickened rim, but not reflexed.

\* Haime shows some pyriform and others elongated and cylindrical.

*Formula.*—1 0 2 1-12.

*Distribution.*—Cornbrash, Fuller's Earth, and Inferior Oolite, England. Fuller's Earth, France.

#### 6. *Proboscina morinica* (Sauvage), 1889.

*Stomatopora morinica*, Sauvage, 1889, Bry. Jur. Boul., Bull. Soc. géol.

France, sér. 3, t. xvii. p. 41, pl. iii. fig. 5, pl. iv. figs. 6, 7.

? *Proboscina obscura*, Vine, 1893, Polyz. Thrapston, Proc. Yorksh. Geol. Soc. vol. xii. p. 255, pl. xiii. fig. 7.

*Diagnosis.*—*Zoarium* of an irregular reticulate encrustation. Branches made up of from one to five zoecia.

*Zoecia* short, thick, with wide orifices. Shape in places almost hippothoiform, otherwise elliptical.

*Peristomes* irregular, slightly raised.

*Formula.*—2 2 1 1/4.

*Distribution.*—Cornbrash, England. Oxfordian, France.

#### 7. *Proboscina spatiosa*, Walford.

*Proboscina spatiosa*, Walford, 1889, Bry. Shipton, Part I., Quart. Journ.

Geol. Soc. vol. xlv. pp. 566, 567, pl. xvii. figs. 1-3, pl. xviii. figs. 1-5.

*Diagnosis.*—*Zoarium* of irregular, narrow, irregularly branching bands, each composed of from one to four zoecia in width.

*Zoecia* pyriform or subpyriform, of medium length; wall coarsely wrinkled and punctate.

*Peristomes* much raised; apertures elliptical or circular.

*Formula.*—3 2 1 1-4.

*Distribution.*—Inferior Oolite, England.

#### 8. *Proboscina liasica*, Quenstedt, 1852.

*Diastopora liasica*, Quenst. 1852, Handb. Petref. p. 637, pl. lvi. fig. 10.

*Berenicea Edwardsi*, Terquem, 1855, Pal. dép. Moselle, p. 26.

*Proboscina Edwardsi*, Terquem & Piette, 1865, Lias inf. Est France, Mém. Soc. géol. France, sér. 2, t. viii. p. 125, pl. xiv. figs. 21, 22 (non 25-26, as in text).

*Proboscina prorepens*, Waagen, 1868, Zone *Amm. Sowerbyi*, Geogn. pal. Beitr. Bd. i. pp. 535, 647, pl. xxxiii. fig. 3.

*Diagnosis.*—*Zoarium* of narrow branching bands, composed of from three to five zoecia in width.

*Zoecia* cylindrical, of medium length; fine transverse lines traverse the walls.

*Peristomes* slightly raised; orifices somewhat elliptical.

*Formula.*—1 0 1 3-5.

*Distribution.*—Inferior Oolite, England (fide *Walford*). Lias, France and Germany; Bajocian, Germany.

*Indeterminable Species.*

1. *Proboscina Alfredi*, Haime.

*Proboscina Alfredi*, Haime, 1854, Bry. Jur., Mém. Soc. géol. France, sér. 2, t. v. p. 168, pl. vi. fig. 8.

*Distribution.*—Bajocian, Germany.

2. *Proboscina ammonitorum* (d'Orb.).

*Idmonea ammonitorum*, d'Orbigny, 1849, Prod. Pal. t. i. p. 288.

*Distribution.*—Bajocian, France.

3. *Proboscina complanata* (d'Orb.).

*Idmonea complanata*, d'Orbigny, 1849, *op. cit.* t. i. p. 288.

*Distribution.*—Bajocian, France.

4. *Proboscina divisa*, Vine (non Étall.).

*Proboscina divisa*, Vine, 1893, Polyz. Thrapston, Proc. Yorksh. Geol. Soc. vol. xii. p. 256, pl. xiii. fig. 8.

*Distribution.*—Cornbrash, England.

5. *Proboscina elegantula* (d'Orb.).

*Idmonea elegantula*, d'Orbigny, 1849, *op. cit.* t. i. p. 288.

*Distribution.*—Bajocian and Bathonian, France.

6. *Proboscina expansa*, Étallon.

*Proboscina expansa*, Étallon, 1860, Jura Graylois, Ann. sci. phys. nat. Lyon, sér. 3, t. iv. p. 175.

*Distribution.*—Corallian, France.

7. *Proboscina gracilis*, d'Orbigny.

*Idmonea gracilis*, d'Orbigny, 1849, Prod. Pal. t. i. p. 317.

*Distribution.*—Bathonian, France.

*Synopsis of Species.*

I. Zoecia all cylindrical.

- Peristomes well raised; zoarium flat . . . . . *Jacquoti*.
- Peristomes low; zoarium in linear bands, mostly biserial, frequently branched . . . . . *Comingtoni*.
- Multiserial, seldom branched.
  - Zoarium flat . . . . . *liasica*.
  - Zoarium ridged . . . . . *Eudesi*.
  - Zoarium in tufts and sheets . . . . . *Rigauxi*.

II. Zoecia pyriform.

- Peristomes well raised . . . . . *spatiosa*.
- Peristomes low; zoecia long . . . . . *Desoudini*.
- Zoecia short . . . . . *morinica*.